

## VII. Mitigation Measures and Action Plan

### Introduction

The mitigation projects identified in the following “*Mitigation Measures & Action Plan*” were first compiled by the State Hazard Mitigation Officer (SHMO) and then reviewed by the State Hazard Mitigation Planning Committee (SHMPC). For each Goal identified, the SHMPC identified objectives and projects to achieve that goal.

### Goals Identified

The SHMO, in coordination with the SHMPC, developed the following list of Mitigation Goals for the State of New Hampshire. These goals are broad and represent what the State would like to achieve in the long-term. They are intended to guide the development and implementation of mitigation measures.

The goals are organized on a functional basis, as opposed to being grouped by hazards. The thought behind this decision is that many mitigation measures address multi-hazards. However, as identified in Chapter 3-Hazard Analysis, Flooding and Winter Weather-related hazards occur most frequently in New Hampshire. Consequently, the mitigation projects identified in this Chapter are based on their implementation in the highest risk areas. HSEM sets a high priority for projects implemented in the highest impact areas.

The State Hazard Mitigation Planning Committee has met and reviewed the current goals and found that they are all still valid. Part of this meeting was also to review all identified strategies the committee has removed that have been determined NOT cost effective.

Local communities continue to develop their specific mitigation projects based on the goals, objectives and actions identified in the State Hazard Mitigation Plan.

### *Hazard Mitigation Goals of the State of New Hampshire*

The overall Goals of the State, with respect to Hazard Mitigation, is to provide guidance in the selection of hazard mitigation activities throughout the state. A complete list of the Goals, Objectives and Activities can be found in the “*Mitigation Measures and Action Plan*” on page VIII-3.

1. To improve upon the protection of the general population, citizens and guests of the State of New Hampshire, from all natural and man-made hazards.
2. To reduce the potential impact of natural and man-made disasters on the State’s Critical Support Services and Critical Facilities.
3. To reduce the potential impact of natural and man-made disasters on the State’s infrastructure.

4. To improve the State's Emergency Preparedness, Disaster Response and Recovery Capability.
5. To reduce the potential impact of natural and man-made disasters on private property.
6. To reduce the potential impact of natural and man-made disasters on the State's economy.
7. To reduce the potential impact of natural and man-made disasters on the State's natural environment.
8. To reduce the State's liability with respect to natural and man-made hazards generally.
9. To reduce the potential impact of natural and man-made disasters on the State's specific historic treasures.
10. To identify, introduce and implement cost effective Hazard Mitigation measures so as to accomplish the State's Goals.
11. To address the challenges posed by climate change as they pertain to increasing risks in the State's infrastructure and natural environment.

### **Completed Projects since the 1999 Edition of the Hazard Mitigation Plan**

The following projects have been completed since the 1999 edition of the Hazard Mitigation Plan:

1. Conduct a network analysis of the State's flood gauging and warning system(s) in accordance with the recommendations as forwarded by the Water Resources and Flood Interests Planning Group. This project was completed by the combined efforts of the National Weather Service (NSW), United States Geological Survey (USGS), Department of Environmental Service, Water Division (NHDES-WRD), NH Bureau of Emergency Management (HSEM) and the Federal Emergency Management Agency (FEMA).
2. Support the integration of existing, upgraded and new precipitation and flow gauges in real time with the National Weather Service. This project was completed by the combined efforts of the NWS, USGS, NHDES-WRD, FEMA and FEMA.
3. Support the enhancement of the gauging network as recommended by the USGS and NHDES-WRD. This project was completed by the combined efforts of the NWS, USGS, NHDES-WRD, FEMA and FEMA.
4. Explore the feasibility and desirability of introducing snowpack and/or high altitude gauging instrumentation into the network and support USGS and NHDES

recommendations. This project was completed by the combined efforts of the NWS, USGS, NHDES-WRD, FEMA and FEMA.

5. Facilitate the development of the Statewide Microwave communications system and integration of Emergency Communications Statewide.

6. Establish reliable power generation systems for existing EAS facilities including redundant stand alone power generation systems as indicated.

# *Mitigation Measures & Action Plan*

## **Goal I.**

**To improve upon the protection of the general population,  
Citizens and guests of the State of New Hampshire, from all natural and man-made hazards.**

### **Objective A.**

**Protect the public from natural & man-made hazards by dissemination of information with respect to the relative risk of individual hazards.**

#### **Activity 1.**

Support the Emergency Alert System as necessary. *(Funded by HSEM through annual FEMA Grants)*

#### **Activity 2.**

NH HSEM will continue to support the CEMPS initiative through the Emergency Management Planning Grant Program. *(Funded by HSEM through annual FEMA Grants)*

#### **Activity 3.**

Support the development of information dissemination opportunities with broadcast and cablecast media during times of potential hazard conditions.

### **Objective B.**

**Develop and distribute public awareness materials to New Hampshire communities going to Hazard awareness, Preparedness and Hazard Mitigation.**

#### **Activity 1.**

Using materials such as the NESEC video, *New England's Next Earthquake* and the publication from the State of Maine Emergency Management Office, *When Rivers Rise* as models; the State will develop public information materials for distribution to appropriate State Agencies, Regional Planning Commissions, communities and interested parties.

#### **Activity 2.**

The State will review and develop (as necessary) Public Service Announcements to alert interested parties as to the existence and availability of these products and publish such material to the worldwide web as resources allow. *(Funded by HSEM through annual FEMA Grants)*

#### **Activity 3.**

The SHMO will continue to work with the HSEM Field Representatives to make direct outreach to the State's EMDs and other community officials with Hazard Mitigation workshops.

#### **Activity 4.**

Encourage the development of local Flood Reduction Programs.

#### **Activity 5.**

Publish such relevant material to the HSEM website as it may relate to Preparedness, Mitigation, Response and Recovery. *(Funded by HSEM through annual FEMA Grants)*

**Objective C.**

**Support the NHDES-Coastal Program in the mitigation of flood hazards in the State's Coastal Zone**

**Activity 1.**

Support the NHDES-Coastal Program in its Flood Hazard Mitigation activities and in the preservation of the State's marine and adjacent environments.

**Objective D.**

**Improve the awareness and safety of the State's population going to Hurricane related flooding from excessive rainfall and / or Storm Surge.**

**Activity 1.**

Support the Hurricane Tracking Chart Program and related initiatives to help raise the awareness in the general population of the State's Vulnerability to significant hurricane events. *(Funded by HSEM through annual FEMA Grants)*

**Objective E.**

**Develop and support the creation and maintenance of state and local Hazard Mitigation Plans.**

**Activity 1.**

The State will maintain its Hazard Mitigation Plan by addressing Hazard Identification, Vulnerability Assessment, Risk Analysis and assess its capabilities to mitigate the effects of such hazards. *(Funded by HSEM through annual FEMA Grants)*

**Activity 3.**

The State will closely support local communities, with assistance from the Regional Planning Commissions, in the creation of local and Regional Mitigation Plans. *(Funded by HSEM through annual FEMA Grants)*

**Objective F.**

**Conduct Community Assistance Visits (CAV) to advise community officials as to the merits of Hazard Mitigation Planning and the availability of resources.**

**Activity 1.**

OEP NFIP staff shall regularly conduct CAVs, during which Hazard Mitigation is discussed along with NFIP issues. *(Funded by HSEM through annual FEMA Grants)*

**Activity 2.**

The SHMO shall address civic, professional and other groups interested in Hazard Mitigation, specifically regarding the State's initiatives and available resources.

**Objective G.**

**Support the State's Drought Mitigation Plans and initiatives.**

**Activity 1.**

Support the New Hampshire Department of Environmental Services and Water Division in the implementation of the State's Drought Management Plan.

**Activity 2.**

Support the production and distribution of educational materials as necessary to alert the public of the risk and the appropriate preparedness and mitigation actions.

**Objective H.**

**Support NHDRED in the implementation of the State's Wildland Fire Suppression Plans and initiatives.**

**Activity 1.**

Support the New Hampshire Department of Resources and Economic Development in the implementation of the State's Forest Fire Plan and related Plans and authorities toward the development of cost-effective Wildland Fire Hazard Mitigation measures.

**Activity 2.**

Support the water resource planning initiative being implemented by RC&D to provide rural communities with water supplies available for fire suppression.

**Activity 3.**

Support DRED in the development and implementation of Community Wildfire Protection Plans (CWPP's) aimed at reducing the losses of resources from wildland fires.

**Activity 4.**

Support DRED in the use of GIS data layers to map and identify the high-risk areas of the state for potential wildland fires, including the use of LANDIS, a new software model for extrapolating large amounts of data into the future to determine statistical probabilities of wildland fires.

**Activity 5.**

Support the establishment of Firewise communities in those areas of the state identified as high-risk for wildland fire.

**Objective I.**

**Enhance the State's capability to monitor and anticipate potential seismic conditions and disseminate appropriate information to the public in a timely manner.**

**Activity 1.**

Support the integration of existing, upgraded and new gauges in real time Weston Observatory.

**Activity 2.**

Support the enhancement of the gauging network as recommended by the USGS and NHDES-WRD.

**Objective J.**

**Enhance the State's capability to monitor and anticipate potential Severe Wind and related conditions and disseminate appropriate information to the public in a timely manner.**

**Activity 1.**

Identify ideal NOAA Weather transmitter locations and alternates that will provide at least 90% signal reception to the State.

**Activity 2.**

Support the development of information dissemination with broadcast and cablecast media during times of heightened potential Severe Wind conditions.

**Activity 3.**

Provide for NOAA Weather Radio (NWR) Special Area Message Encode (SAME) receivers to the public.

**Activity 4.**

Develop additional information campaigns to educate the public regarding appropriate measures to undertake before, during and after an event as are currently available on the HSEM and FEMA websites. *(Funded by HSEM through annual FEMA Grants)*

**Objective K.**

**In coordination with the NH Association of Code Enforcement Officers, the AIA and the Society of NH Engineers, the NH Department of Safety, and other pertinent agencies, the State's Hazard Mitigation Officer will endeavor to develop Safe Rooms or Safe Areas Statewide.**

**Activity 1.**

Provide materials to educate the public about the safest measures that should be taken outside of buildings during severe wind events.

**Objective L.**

**Assist communities in performing cost effective Severe Wind Hazard Mitigation measures to protect private property.**

**Activity 1.**

Support the development of local codes to include "Hurricane Clips" in roof construction and promote other cost-effective Severe Wind construction and retrofit techniques.

## **Goal II**

**To reduce the potential impact of natural and man-made disasters on New Hampshire's Critical Support Services and Critical Facilities.**

### **Objective A.**

**Identify, assess and catalogue the State's Critical Support Services.**

#### **Activity 1.**

The SHMO shall work with the HSEM Field Representatives, local EMDs and other interested regional and local entities to develop lists of public and private facilities considered "Essential" to regional and local interests during/after events.

### **Objective B.**

**Develop and Support Hazard Mitigation measures designed to reduce the potential impact of disasters on the State's Critical Support Services.**

#### **Activity 1.**

Upon identification and submission of qualifying applications for Program funding, the SHMO shall present applications and recommendations to the State's Hazard Mitigation Team of all cost-effective Hazard Mitigation measures for consideration and prioritization. *(Funded by HSEM through annual FEMA Grants)*

### **Objective C.**

**Support the development of increased standards for such facilities as may be at risk from natural and man-made hazards.**

#### **Activity 1.**

Support the retrofit of existing Waste Water Treatment Plants (WWTP) to withstand the 500 year flood event to the extent that such retrofits may be made cost effective

#### **Activity 2.**

Support the development of standards to locate new construction of WWTPs above the 500 year Flood level

### **Goal III.**

**To reduce the potential impact of natural and man-made disasters on New Hampshire's infrastructure.**

#### **Objective A.**

**Support the NHDES-WRD Dam Bureau's Dam Safety Program.**

##### **Activity 1.**

Support the Dam Bureau in the execution of dam safety inspections and enforcement programs as needed.

##### **Activity 2.**

Support the Dam Bureau in the cost-effective upgrade of State-owned dams for the purpose of optimizing operational controls and the mitigation of the effects of Floods.

##### **Activity 3.**

Support workshops in Hazard Mitigation aimed at Dam Safety and maintenance to municipal dam owners.

##### **Activity 4.**

Assist private dam owners in gaining access to funding for Hazard Mitigation when structures threaten persons or property and other means/resources are unavailable.

#### **Objective B.**

**Assist in the development, adoption and implementation of road standards throughout New Hampshire communities.**

##### **Activity 1.**

Support NHDOT and UNH - TTC - T2 Program in the development of road design construction, storm water and road drainage standards, including culvert and bridge sizing.

##### **Activity 2.**

Encourage the development of local and regional river corridor stewardship programs that address the maintenance of storm water runoff structures and systems.

##### **Activity 3.**

Consider the development of such programs above by employing the use of volunteers such as Boy/Girl Scouts, watershed groups, environmentally conscious groups, prisoners, etc. to assist in river corridor maintenance programs.

#### **Objective C.**

**Develop strategies to mitigate the effects of River Ice impacts on structures and related flooding.**

##### **Activity 1.**

Develop river Ice Observer Training and systems to facilitate the field reports of ice conditions that will be accessible to NOAA/NWS and USACE-CRREL in real time.

**Objective D.**

**Protect the state's Road and Bridge Infrastructure against the effects of natural and man-made hazards.**

**Activity 1.**

Support the Department of Transportation (NH DOT) to conduct vulnerability assessments on the 24 critical bridges throughout the state.

**Activity 2.**

Support the NH DOT to install video surveillance at all State toll-booths and park-n-rides.

**Activity 3.**

Support the NH DOT in the implementation of additional Road Weather Information Stations (RWIS) throughout key locations in the State.

**Objective E**

**Develop strategies to address coastal flooding and protection of infrastructure against storm surge**

**Activity 1**

Support the NHDES Coastal Program in the creation of a seacoast region task force to address hazard and mitigation needs relative to state and community infrastructure.

**Activity 2**

Support the procurement and analysis of LIDAR data in coastal watersheds to better predict floodplain and coastal flooding events.

**Activity 3**

Create visualization tools for communities to better understand the impacts of coastal flooding on infrastructure.

## **Goal IV.**

**To improve Emergency Preparedness, Response & Recovery in all New Hampshire Communities.**

**Objective A.**

**Facilitate the enhancement of State and Local Emergency Operations Planning and Preparedness and provide related training and technical assistance.**

**Activity 1.**

Facilitate the review and development of existing Emergency Operation Plans for potential enhancement with respect to Natural and Man-made Hazards Mitigation initiatives. *(Funded by HSEM through annual FEMA Grants)*

**Activity 2.**

Provide planning and related technical resources to facilitate the enhancement of Disaster Response and Recovery Plans to include Hazard Mitigation initiatives. *(Funded by HSEM through annual FEMA Grants)*

**Activity 3.**

Support the NH Department of Transportation in the development of a Statewide Evacuation Plan.

**Objective B.****Provide related Training and Technical Assistance.****Activity 1.**

Sponsor Disaster Response Capability training exercises for State and local officials. *(Funded by HSEM through annual FEMA Grants)*

**Activity 2.**

Support Incident Stress Debriefing training workshops for responders and citizens and train debriefers to assist in post-event scenarios.

**Activity 3.**

Provide for training in communications protocols for local and regional Emergency Responders.

**Activity 4.**

Support the development of public/private partnerships in the planning for post-event recovery.

**Objective C.****Facilitate the enhancement of State and local Recovery capability through exercises.****Activity 1.**

Assist State and local officials in developing individual and collective Recovery capability by providing resources and opportunities regarding participation in training exercises.

**Activity 2.**

Support strategies, plans and infrastructure to accommodate event debris management in an environmentally sound manner.

**Objective D.****Develop a Statewide Emergency Backup Power Generation for the Department of Transportation.****Activity 1.**

Provide generators at selected state-owned fuel locations to provide fuel to emergency vehicles during an extended power outage.

**Objective E****Expand on NH Department of Health and Human Services current capabilities to better mitigate epidemics****Activity 1**

Connect every NH hospital to the AHEDD system by 2008.

**Activity 2**

Enhance syndromic surveillance in schools.

**Activity 3**

Develop and utilize within the Communicable Disease Control Section (CDCS) standard operating procedures for each reportable disease.

**Activity 4**

Expand the use of NH Electronic Disease Surveillance System (NH EDSS) to all investigating staff members at the local and state level.

**Activity 5**

Better establish protocols and procedures for NH DHHS use of the HAN system including; Define essential public health capacity for HAN, Establish 2-way communication mechanisms for use in public health emergencies, Test response of NH DHHS.

**Activity 6**

Pilot a Countermeasure & Response Administration (CRA) solution for managing data in the event of a statewide response to an epidemic.

**Objective F****Expand on NH Department of Health and Human Services strategies for Food Protection****Activity 1**

Develop and maintain the Food Emergency Response Plan to allow for the preparedness, active investigation, emergency response and recovery during a food emergency response occurring in the State of NH.

**Activity 2**

Provide technical support and information to other state agencies, local governments, the general public and the media concerning food safety issues during natural, technological or man-made disasters.

**Activity 3**

Investigate the need for food safety training pertinent to disaster situations for other state agencies and local governments.

**Activity 4**

Develop Emergency Action Plans for Retail Establishments during emergencies and distribute to food service establishments to self-inspecting communities.

**Activity 5**

Expedite the response of the Food Protection Section to disaster situations.

**Activity 6**

Provide on-site inspections, when needed, to assess the affects of a disaster on the safety of the food supply.

**Objective F****Expand on NH Department of Health and Human Services strategies for Radiological Protection****Activity 1**

Develop a comprehensive Radiological Emergency-Response Containment Program.

**Activity 2**

Develop and implement a Monitoring Point Website.

**Goal V.**

**To reduce the potential impact of natural and man-made disasters on private property.**

**Objective A.**

**Support the education of the general public and private property owners in regards to cost effective mitigation measures by making information and resources available to facilitate private mitigation initiatives.**

**Activity 1.**

Include Flood Hazard Mitigation information going to cost-effective Flood Hazard Mitigation measures for private property in Non-Commercial Service Announcements.

**Activity 2.**

Publish and distribute information brochures going to cost effective Mitigation measures and the availability of mitigation resources.

**Objective B.**

Assist communities in performing cost effective Flood Hazard Mitigation measures to protect private property.

**Activity 1.**

Assist in local planning enterprises toward the identification and prioritization of cost-effective relocation projects.

**Activity 2.**

Encourage and assist communities with the mitigation of repetitive loss properties acquisition & demolition, relocation or elevation (funding through HMP; HMGP, PDMc, RFC, SRL).

**Goal VI.**

**To reduce the potential impact of natural and man-made disasters on New Hampshire's economy.**

**Objective A.**

Establish a baseline for future Hazard Mitigation Planning with respect to the impact of natural and man-made hazards on the State's economy.

**Activity 1.**

Support a protocol for post-disaster data collection as to direct and indirect losses from events by type.

**Activity 2.**

Support the inclusion of planning for economic Hazard Mitigation and recovery in local Hazard Mitigation Plans.

**Goal VII.**

**To reduce the potential impact of natural and man-made disasters on New Hampshire's natural environment.**

**Objective A.**

Establish a baseline for future Hazard Mitigation Planning with respect to the impact of various natural and man-made hazards on the State's natural environment.

**Activity 1.**

Develop a strategy for mapping existing sensitive natural resources that may be impacted by the various hazard types in a GIS format that can be useful in Hazard Mitigation, project approval and for use in future DFOs.

**Goal VIII.**

**To reduce the State's liability with respect to natural and man-made hazards.**

**Objective A.**

Establish a baseline for future Hazard Mitigation Planning with respect to the impact of various natural and man-made hazards on the State with respect to any liability as may not have been addressed above

**Activity 1.**

Identify and catalogue categories of potential loss from natural hazards.

**Goal IX.**

**To reduce the potential impact of natural and man-made disasters on New Hampshire's historic & cultural treasures.**

**Objective A.**

Establish a baseline for future Hazard Mitigation Planning with respect to the impact of natural and man-made hazards on the State's historic and cultural treasures.

**Activity 1.**

Assist the State's Historic Preservation (SHPO) Officer and the NH Division of Historical Resources (NHDHR) in efforts to inventory, catalogue and assess the State's Archeological and Historical treasures (including buildings, dams, bridges etc.)

**Activity 2.**

Conduct an analysis of the impact of prior natural and man-made disasters on the State's Historical and Archeological treasures as well as the potential for future impacts to these resources from the hazards identified in this Plan.

**Activity 3.**

Develop a strategy for Mapping existing sensitive natural resources as may be impacted by the various hazard types in a GIS format useful in Hazard Mitigation project approval and for use in future Disaster Field Offices.

**Activity 4.**

Assist NH Division of Historical Resources (NHDHR) in the recruitment and training Emergency Field Survey Teams to expedite Historical site reviews in an emergency.

**Goal X.**

**To identify, introduce and implement cost effective Hazard Mitigation measures so as to accomplish the State's Goals.**

**Objective A.**

Communicate the State's Goals and Objectives statewide and assist in State, Regional and Local Hazard Mitigation Planning initiatives statewide.

**Activity 1.**

Produce copies of this Plan and distribute these to all members of the State Hazard Mitigation Team, State POC's of the relevant Lead and Support Agencies, Regional Planning Commissions and other interested private parties, to facilitate Hazard Mitigation planning and implementation. *(Funded by HSEM through annual FEMA Grants)*

**Objective B.**

**Support participating communities in their Mitigation Planning initiatives as well as in project selection and execution.**

**Activity 1.**

OEP will continue to assist in the development of Flood Mitigation Assistance Program (FMA) Plans and/or projects in communities with FMA Planning/Project grants. *(Funded by OEP through annual FEMA Grants)*

**Activity 2.**

OEP will facilitate the selection of one or more communities to receive an FMAP Planning Grant in FY 2008 with FMAP TA 2007 funding.

**Activity 3.**

Assist in the development of Hazard Mitigation Plans in selected communities. *(Funded by BEM through annual FEMA Grants)*

**Activity 4.**

OEP will assist communities in FMAP Project designation, initiation and completion as indicated.

**Activity 5.**

Continue to process existing applications and assist with approved projects with respect to all open Disaster related accounts.

**Activity 6.**

Continue to work with the State's Hazard Mitigation Team to select projects which are cost beneficial and address the State's Hazard Mitigation Goals and Objectives.

**Activity 7.**

Revise the HMGP Administrative Plan with Technical Assistance from FEMA.

**Activity 8.**

Disseminate information with respect to the availability of HMGP funding including the posting of public notices, posting direct mail Notices of Interest to eligible applicants and/or by conducting public information briefings as to the existence and status of HMGP funding and related grant funding requirements.

**Objective C.**

**Continue to support the initiatives developed under the EMPG – Mitigation Assistance Program and develop relevant and cost beneficial planning and project initiatives as indicated.**

**Activity 1.**

The State will continue to support the CEMPS initiative through the EMPG Program. *(Funded by HSEM through annual FEMA Grants)*

**Activity 2.**

The NH HSEM will continue to refine the CEMPS curriculum so as to ensure relevancy with the most current and applicable information and mitigation techniques.

**Objective D.**

**Continue to support the initiatives developed under the EMPG – Disaster Preparedness Improvement Grant Program (DPIG) and develop relevant and cost beneficial planning and project initiatives as indicated.**

**Activity 1.**

The SHMO will continue to support Hazard Mitigation planning and projects statewide as are consistent with this Plan.

**Objective E.**

Continue to support the purpose and intent of the Community Development Block Grant Program insofar as funds are made available for the purpose of Hazard Mitigation Planning and implementation of Hazard Mitigation initiatives.

**Activity 1.**

The SHMO will continue to support Hazard Mitigation planning and projects statewide as are consistent with this Plan and this funding stream's guidelines

**Objective F**

Provide training to other State, Regional and local personnel and the private sector which facilitates the awareness and acceptance of Hazard Mitigation and the propagation of responsible Hazard Mitigation initiatives.

**Activity 1.**

OEP will provide training in Floodplain Management and the development of local policies and procedures which may facilitate responsible use of designated Floodplain areas. *(Funded by OEP through annual FEMA Grants)*

**Activity 2.**

Provide for workshops aimed at Dam Safety and maintenance.

**Goal XI.**

**To address the challenges posed by climate change as they pertain to increasing risk to the State's infrastructure and natural environment**

**Objective A**

Support efforts to characterize and identify risks posed by climate change especially as it relates to changing precipitation patterns, storm event frequency, and sea level rise.

**Activity 1**

Support studies which examine changing hydrology in rivers due to altered precipitation patterns and watershed development.

**Activity 2**

Support mapping, studies and protection of natural systems (such as salt marshes) that provide natural protection against coastal flooding.

**Objective B**

Support strategies for adaption to climate change.

**Activity 1**

Support NHDES Coastal Program and other organizations' efforts to develop adaption strategies.

**Activity 2**

Disseminate results of climate change studies for the purpose of better floodplain planning and changing infrastructure standards (ie. Recommendations on culvert sizing and stormwater volumes).

Each member of the State Hazard Mitigation Planning Committee is considered an expert in their field and they have prioritized and evaluated each mitigation activity as being cost-effective, environmentally sound and technically feasible. The following table shows the total number of votes of the SHMPC for each project. Additionally, the SHMO will utilize FEMA Benefit/Cost software for prioritizing both local and state projects.

<b>MITIGATION PROJECTS</b>	<b>VOTES</b>
Support the Emergency Alert System as necessary	3
NH HSEM will continue to support the CEMPS initiative through the Emergency Management Planning Grant Program.	3
Support the development of information dissemination opportunities with broadcast and cablecast media during times of potential hazard conditions.	5
Using materials such as the NESEC video, <i>New England's Next Earthquake</i> and the publication from the State of Maine Emergency Management Office, <i>When Rivers Rise</i> as models; the State will develop public information materials for distribution to appropriate State Agencies, Regional Planning Commissions, communities and interested parties.	4
The State will review and develop (as necessary) Public Service Announcements to alert interested parties as to the existence and availability of these products & publish such material to the worldwide web as resources allow.	3
The SHMO will continue to work with the HSEM Field Representatives to make direct outreach to the State's EMDs and other community officials with Hazard Mitigation workshops.	3
Encourage the development of local Flood Reduction Programs.	4
Publish such relevant material to the HSEM website as may relate to Preparedness, Mitigation, Response and Recovery.	3
Support the NHDES-Coastal Program in its Flood Hazard Mitigation activities and in the preservation of the State's marine and adjacent environments.	3
Support the Hurricane Tracking Chart Program and related initiatives to help raise the awareness in the general population of the State's Vulnerability to significant hurricane events.	4
The State will maintain its' Hazard Mitigation Plan addressing Hazard Identification, Vulnerability Assessment, Risk Analysis and assess its capabilities to mitigate the effects of such hazards.	3
The State will closely support local communities, with assistance from the Regional Planning Commissions, in the creation of local and Regional Mitigation Plans.	4
OEP NFIP staff shall regularly conduct CAVs at which Hazard Mitigation is discussed along with NFIP issues.	4
The SHMO shall address such civic, professional and other groups as may be interested in Hazard Mitigation regarding the State's initiatives and available resources.	2
Support the New Hampshire Department of Environmental Services - Water Division in the implementation of the State's Drought Management Plan.	3
Support the production and distribution of educational materials as necessary to alert the public of the Risk and the appropriate Preparedness and Mitigation actions.	3
Support the New Hampshire Department of Resources and Economic Development in the implementation of the State's Forest Fire Plan and related Plans and authorities toward the development of cost effective Wildland Fire Hazard Mitigation measures.	3
Support the water resource planning initiative being implemented by RC&D to provide rural communities with water supplies available for fire suppression.	3
Support DRED in the development and implementation of Community Wildfire Protection Plans (CWPP's) aimed at reducing the losses of resources from wildland fires.	2

<b>MITIGATION PROJECTS Cont.</b>	<b>Votes</b>
Support DRED in the use of GIS data layers to map and identify the high risk areas of the state for potential wildland fires, including the use of LANDIS, a new software model for extrapolating large amounts of data into the future to determine statistical probabilities of wildland fires.	2
Support the establishment of Firewise communities in those areas of the state identified as high-risk for wildland fire.	4
Support the integration of existing, upgraded and new gauges in real time Weston Observatory.	2
Support the enhancement of the gauging network as recommended by the USGS and NHDES-WRD.	2
Identify ideal NOAA Weather transmitter locations and alternates that will provide at least 90% signal reception to the State.	3
Support the development of information dissemination with broadcast and cablecast media during times of heightened potential Severe Wind conditions.	2
Provide for NOAA Weather Radio (NWR) Special Area Message Encode (SAME) receivers to the public.	3
Develop additional information campaigns to educate the public regarding appropriate measures to undertake before, during and after an event as are currently available on the HSEM and FEMA websites.	3
Provide materials to educate the public as to the safest measures that may be taken outside of buildings in severe wind events.	3
Support the development of local codes to include "Hurricane Clips" in roof construction and promote other cost effective Severe Wind construction and retrofit techniques.	2
The SHMO shall work with the HSEM Field Representatives, local EMDs and other interested regional and local entities to develop lists of public and private facilities considered to be "Essential" to regional and local interests during/after events.	3
Upon identification and submission of qualifying applications for Program funding, the SHMO shall present applications and recommendations to the State's Hazard Mitigation Team of all cost effective Hazard Mitigation measures for consideration and prioritization.	3
Support the retrofit of existing Waste Water Treatment Plants (WWTP) to withstand the 500 year flood event to the extent that such retrofits may be made cost effective.	2
Support the development of standards to locate new construction of WWTPs above the 500 year Flood level.	4
Support the Dam Bureau in the execution of dam safety inspections and enforcement programs as needed.	5
Support the Dam Bureau in the cost-effective upgrade of State-owned dams for the purpose of optimizing operational controls and the mitigation of the effects of Floods.	4
Support workshops in Hazard Mitigation aimed at Dam Safety and maintenance to municipal dam owners.	3
Assist private dam owners in gaining access to funding for Hazard Mitigation when structures threaten persons or property and other means/resources are unavailable.	2
Support NHDOT and UNH - TTC - T2 Program in the development of road design construction, storm water and road drainage standards, including culvert and bridge sizing.	3
Encourage the development of local and regional river corridor stewardship programs that address the maintenance of storm water runoff structures and systems.	3
Consider the development of such programs above by employing the use of volunteers such as Boy/Girl Scouts, watershed groups, environmentally conscious groups, prisoners, etc. to assist in river corridor maintenance programs.	4
Develop river Ice Observer Training and systems to facilitate the field reports of ice conditions that will be accessible to NOAA/NWS and USACE-CRREL in real time.	2

<b>MITIGATION PROJECTS Cont.</b>	<b>Votes</b>
Support the Department of Transportation (NH DOT) to conduct vulnerability assessments on the 24 critical bridges throughout the state.	5
Support the NH DOT to install video surveillance at all State toll-booths and park-n-rides.	3
Support the NH DOT in the implementation of additional Road Weather Information Stations (RWIS) throughout key locations in the State.	4
Facilitate the review and development of existing Emergency Operation Plans for potential enhancement with respect to Natural and Manmade Hazards Mitigation initiatives.	3
Provide planning and related technical resources to facilitate the enhancement of Disaster Response and Recovery Plans to include Hazard Mitigation initiatives.	3
Support the NH Department of Transportation in the development of a Statewide Evacuation Plan.	5
Sponsor Disaster Response Capability training exercises for State and local officials.	3
Support Incident Stress Debriefing training workshops for responders and citizens and train debriefers to assist in post-event scenarios.	3
Provide for training in communications protocols for local and regional Emergency Responders.	2
Support the development of public/private partnerships in the planning for post-event recovery.	3
Assist State and local officials in developing individual and collective Recovery capability by providing resources and opportunities regarding participation in training exercises.	3
Support strategies, plans and infrastructure to accommodate event debris management in an environmentally sound manner.	3
Provide generators at selected State owned fuel locations to provide fuel to emergency vehicles during an extended power outage.	4
Include Flood Hazard Mitigation information going to cost effective Flood Hazard Mitigation measures for private property in Non-Commercial Service Announcements.	2
Publish and distribute information brochures going to cost effective Mitigation measures and the availability of mitigation resources.	3
Assist in local planning enterprises toward the identification and prioritization of cost-effective relocation projects.	3
Encourage and assist communities with the mitigation of repetitive loss properties acquisition & demolition, relocation or elevation (funding through HMP, FMA, HMGP, PDMc, RFC, SRL).	4
Support a protocol for post-disaster data collection as to direct and indirect losses from events by type.	3
Support the inclusion of planning for economic Hazard Mitigation and recovery in local Hazard Mitigation Plans	2
Develop a strategy for mapping existing sensitive natural resources as may be impacted by the various hazard types in a GIS format useful in Hazard Mitigation, project approval and for use in future DFOs.	2
Identify and catalogue categories of potential loss from natural hazards.	3
Assist the State's Historic Preservation (SHPO) Officer and the NH Division of Historical Resources (NHDHR) in efforts to inventory, catalogue and assess the State's Archeological and Historical treasures (including buildings, dams, bridges etc.)	2
Conduct an analysis of the impact of prior natural and man-made disasters on the State's Historical and Archeological treasures as well as the potential for future impacts to these resources from the hazards identified in this Plan.	3
.	

<b>MITIGATION PROJECTS Cont.</b>	<b>Votes</b>
Assist NH Division of Historical Resources (NHDHR) in the recruitment and training Emergency Field Survey Teams to expedite Historical site reviews in an emergency.	2
Produce copies of this Plan and distribute these to all members of the State Hazard Mitigation Team, State POC's of the relevant Lead and Support Agencies, Regional Planning Commissions and other interested private parties, to facilitate Hazard Mitigation planning and implementation.	3
OEP will continue to assist in the development of Flood Mitigation Assistance Program (FMA) Plans and/or projects in communities with FMA Planning/Project grants.	2
OEP will facilitate the selection of one or more communities to receive an FMAP Planning Grant in FY 2008 with FMAP TA 2007 funding.	3
Assist in the development of Hazard Mitigation Plans in selected communities.	4
OEP will assist communities in FMAP Project designation, initiation and completion as indicated.	2
Continue to process existing applications and assist with approved projects with respect to all open Disaster related accounts.	2
Continue to work with the State's Hazard Mitigation Team to select projects which are cost beneficial and address the State's Hazard Mitigation Goals and Objectives.	4
Revise the HMGP Administrative Plan with Technical Assistance from FEMA.	3
Disseminate information with respect to the availability of HMGP funding including the posting of public notices, posting direct mail Notices of Interest to eligible applicants and/or by conducting public information briefings as to the existence and status of HMGP funding and related grant funding requirements.	5
The NH HSEM will continue to refine the CEMPS curriculum so as to ensure relevancy with the most current and applicable information and mitigation techniques.	4
The SHMO will continue to support Hazard Mitigation planning and projects statewide as are consistent with this Plan.	3
The SHMO will continue to support Hazard Mitigation planning and projects statewide as are consistent with this Plan and this funding stream's guidelines.	4
OEP will provide training in Floodplain Management and the development of local policies and procedures which may facilitate responsible use of designated Floodplain areas.	5
Provide for workshops aimed at Dam Safety and maintenance.	3
DHHS will work to connect every NH hospital to the AHEDD system by 2008.	4
Enhance syndromic surveillance in schools.	2
DHHS will actively utilize electronic laboratory reporting.	3
Develop and utilize within the Communicable Disease Control Section (CDCS) standard operating procedures for each reportable disease.	3
Expand the use of NH Electronic Disease Surveillance System (NH EDSS) to all investigating staff members at the local and state level.	2
Establish protocols and procedures for NH DHHS use of the HAN system.	3
Define essential public health capacity for HAN.	3
Establish 2-way communication mechanisms for use in public health emergencies.	3
Test response of NH DHHS.	3

<b>MITIGATION PROJECTS Cont.</b>	<b>Votes</b>
Pilot a Countermeasure & Response Administration (CRA) solution for managing data in the event of a statewide response to an epidemic.	4
Develop and maintain the Food Emergency Response Plan to allow for the preparedness, active investigation, emergency response and recovery during a food emergency response occurring in the State of NH.	4
Provide technical support and information to other state agencies, local governments, the general public and the media concerning food safety issues during natural, technological or man-made disasters.	4
Investigate the need for food safety training pertinent to disaster situations for other state agencies and local governments.	3
Develop Emergency Action Plans for Retail Establishments during emergencies and distribute to food service establishments to self-inspecting communities.	4
Expedite the response of the Food Protection Section to disaster situations.	4
Secure overtime pay to have Food Protection Section employee(s) on-call after normal work hours and on weekends for disaster/emergency situations.	4
Continue to provide pagers and cell phones for field staff to allow for communication during emergency situations.	3
Provide on-site inspections, when needed, to assess the affects of a disaster on the safety of the food supply.	3
Secure funding to purchase foul weather clothing to wear during disaster situations for field inspectors.	3
DHHS will develop a Radiological Emergency-Response Containment Program.	3
DHHS will establish a Monitoring Point Website.	3
OEP will continue to educate the public and local builders about the state's building energy codes.	4
OEP will provide building energy codes training for inspectors.	4
OEP will continue educating the public on utility-sponsored energy efficiency incentives.	3
Encourage cities and towns to adopt property tax exemptions for renewable energy installations.	3
Assure fuel and electricity needs for emergency first responders, hospitals and similar institutions, and continuity of government operations	3
Encouraging local transportation fuel retailers to install and maintain backup generators to power pumps during electricity outages.	5
Ensure that local fuels storage terminals are not at risk from flooding or other direct impacts such as falling trees. Ideally, they would be located where they are accessible from more than one route in the event of flooding or other impacts on road infrastructure.	5
Support the NHDES Coastal Program in the creation of a seacoast region task force to address hazard and mitigation needs relative to state and community infrastructure.	3
Support the procurement and analysis of LIDAR data in coastal watersheds to better predict floodplain and coastal flooding events.	3
Create visualization tools for communities to better understand the impacts of coastal flooding on infrastructure.	2

<b>MITIGATION PROJECTS Cont.</b>	<b>Votes</b>
Support studies which examine changing hydrology in rivers due to altered precipitation patterns and watershed development.	2
Support mapping, studies and protection of natural systems (such as salt marshes) that provide natural protection against coastal flooding.	3
Support mapping, studies and protection of natural systems (such as salt marshes) that provide natural protection against coastal flooding.	3
Disseminate results of climate change studies for the purpose of better floodplain planning and changing infrastructure standards (i.e. Recommendations on culvert sizing and stormwater volumes).	3
Support DES in Fluvial Studies of NH Watersheds to gain the best scientific data on reducing the effects of flooding in NH communities while maintaining environmentally sound solutions.	2

The Mitigation Action Plan on the following page identifies the highest ranking activities with their Responsibility, Estimated Costs, Funding Sources and a Timeframe. In addition, these high-ranking projects also were evaluated using STAPLEE. **STAPLEE** is an acronym for a general set of criteria common to public administration officials and planners. It stands for the Social, Technical, Administrative, Political, Legal, and Economic/ Environmental criteria for making planning decisions. The HSEM and the State Hazard Mitigation Officer completed the STAPLEE Review which can be found in Appendix A.

<b>State of New Hampshire</b> <b><i>Mitigation Action Plan</i></b>					
<b>Project</b>	<b>Responsibility/Oversight</b>	<b>Estimated Cost</b>	<b>Funding/Support</b>	<b>Timeframe</b>	<b>Flood/Winter Weather Action</b>
Support DES in Fluvial Studies of NH Watersheds to gain the best scientific data on reducing the effects of flooding in NH communities while maintaining environmentally sound solutions.	DES / HSEM	Cost is being investigated	HMGP 5% / EMPG	5 years	Yes
Support the installation of regionally and locally significant staff gauges and other such monitoring equipment as determined to be necessary by local EMDs, Road Agents, etc.	USGS / HSEM	\$75 per site	Determined as needed/HMGP	2-5 years	Yes
Support the New Hampshire Department of Resources and Economic Development in the implementation of the State's Forest Fire Plan and related Plans and authorities toward the development of cost effective Wildland Fire Hazard Mitigation measures.	DRED/HSEM	Planning Phase being developed	Firewise and PDMc	2-5 years	No
Support the procurement and analysis of LIDAR data in coastal watersheds to better predict floodplain and coastal flooding events.	HSEM / DES	Being Developed	To be determined	2 years	Yes
The State will closely support local communities, with assistance from the Regional Planning Commissions, in the creation of local and Regional Multi-Mitigation Plans.	HSEM	\$7,500/plan	EMPG/PDMc	Annually	No

### ***Mitigation Action Plan Continued***

<b>Project</b>	<b>Responsibility/Oversight</b>	<b>Estimated Cost</b>	<b>Funding/Support</b>	<b>Timeframe</b>	<b>Flood/Winter Weather Action</b>
Support the integration of existing, upgraded and new gauges in real time Weston Observatory.	Weston/HSEM	\$25,000/Site \$15,000 annual fee	Private Source	Ongoing	No
Identify ideal NOAA Weather transmitter locations and alternates that will provide at least 90% signal reception to the State.	NH DOT	\$70,000/site +\$35/mo. Fees	Funding is being determined	3-5 years	Yes
Support the Dam Bureau in the cost-effective upgrade of State-owned dams for the purpose of optimizing operational controls and the mitigation of the effects of Floods.	DES	Cost will vary per project	Dam maintenance fund	Ongoing	Yes
Provide for workshops in Hazard Mitigation aimed at Dam Safety and maintenance to municipal dam owners.	DES	\$2,000 Workshop	Dam Registration Fees	Ongoing	Yes
Organize and train Road Agents, EMDs and "Skywarn" etc. volunteers in affected areas in ice monitoring activities that will enhance the NH-CRREL database.	CRREL/HSEM	\$1,500/Workshop	State Hazard Mitigation Funds	Ongoing	Yes
Facilitate the review of existing Emergency Operation Plans for potential enhancement with respect to Natural and Manmade Hazards Mitigation initiatives.	HSEM	\$5,000/plan	EMPG	Ongoing	No
Develop a strategy for Mapping existing sensitive natural resources as may be impacted by the various hazard types in a GIS format useful in Hazard Mitigation, project approval and for use in future DFOs.	HSEM/grnit/911	Admn. Costs	Personnel Support/ Administrative Budget	Unknown	No

### ***Mitigation Action Plan Continued***

<b>Project</b>	<b>Responsibility/Oversight</b>	<b>Estimated Cost</b>	<b>Funding/Support</b>	<b>Timeframe</b>	<b>Flood/Winter Weather Action</b>
Assist the State's Historic Preservation (SHPO) Officer and the NH Division of Historical Resources (NHDHR) in efforts to inventory, catalogue and assess the State's Archeological and Historical treasures (including buildings, dams, bridges, etc.).	NHDHR/HSEM	Varies per project	EMPG/NHDR	3-5 years	No
Continue to work with the State's Hazard Mitigation Team to select projects which are cost beneficial and address the State's Hazard Mitigation Goals and Objectives.	HSEM/State Hazard Mitigation Committee	Admn.	EMPG	Annually	No
Provide for training in Floodplain Management and the development of local policies and procedures which may facilitate responsible use of designated Floodplain areas.	OEP/RPCs	\$3,000/yr	CAP/NFIP	Annually	Yes

### ***HSEM Staff Projects***

*The following is a list of mitigation activities that should be incorporated in the next update of the Plan, as time and funds allow*

Complete building type to the <i>Inventory of State-Owned Critical Facilities</i> table in Chapter IV.	HSEM – SHMO	Admn.	HSEM Staff	1-3 years	No
Collect more hazard specific data, on a county wide basis for Landslide, Downburst, Lightning and Winter Weather.	HSEM – SHMO	Admn.	HSEM Staff	1-5 years	Yes
Incorporate identification, risk assessment and mitigating of Human-Caused Hazards in future updates of this Plan.	HSEM – SHMO	Admn.	HSEM Staff	1-5 years	No